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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/693,670 | 10/24/2003 | Daniel P. Campbell | 163.1774US01 | 9630 |
| 23552 | 7590 | 04/25/2005 | EXAMINER | |
| MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903 | | | HOPKINS, ROBERT A | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1724 | |
| DATE MAILED: 04/25/2005 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/693,670

Applicant(s)

CAMPBELL ET AL.

Examiner

Robert A. Hopkins

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-11 and 13 is/are allowed.
- 6) ☒ Claim(s) 12 and 14-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3-1-05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 12 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Michaels(3615024).

Michaels teaches a filter media. Examiner notes that patentability of product by process claims is determined based on the product, and not on the process of making the product. Examiner notes that the filter media of Michaels is a polymer material, wherein specific polymers such as polymethacrylates are disclosed in column 7 of Michaels, and also on page 15 of the current specification. Examiner also notes that Michaels discloses a glass transition temperature of at least about 20 degrees C, wherein 20 degrees C is recited in claim 5 as an endpoint in a range of desired glass transition temperature. Examiner also notes that the polymer materials listed in table 1 column 8 of Michaels are expected to have a desired diffusion rate of greater than or equal to 10^{-8} cm²/sec, because many of the polymers have the same chemical structure as those listed on page 15 of the current specification.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barrett et al(4650329) taken together with Applicant's Specification.

Barrett et al teaches a method for measuring a diffusion rate of a first analyte into a first polymer(column 7 lines 28-32) comprising positioning a test sample of the first polymer within a test sample region(12) of an optical waveguide interferometer(10), positioning a reference sample of the first polymer(column 3 lines 32-34) within a reference sample region(14) of the optical waveguide interferometer, passing a first beam of light through the test sample region to produce a sensing beam of light exiting the optical waveguide interferometer while simultaneously passing a second beam of light through the reference sample region to produce a reference beam of light exiting the optical waveguide interferometer, optically combining a first propagating light speed of the sensing beam of light with a second propagating light speed of the reference beam of light to create an interference pattern of alternating dark and light fringes, imaging the interference pattern through a two-dimensional array detector(30) to produce a signal output, converting the signal output to a phase change output using a Fourier transform program(see recording device 74 and graph in figure 3). Barrett et al is silent as to determining the diffusion rate of the first analyte into the first polymer from the phase change. Examiner respectfully submits that page 8 of the current specification shows a well known equation which relates the phase change at any time to the diffusion coefficient. Therefore, because the phase change is determined in

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Barrett et al, it would have been obvious to someone of ordinary skill in the art at the time of the invention to determine a diffusion rate of an analyte into the polymer of Barrett et al by calculating a diffusion coefficient from a well known mathematical equation.

Barrett et al further teaches wherein the first beam of light and the second beam of light result from beam splitting a light beam from a laser beam source. Barrett et al further teaches wherein the apparatus used to measure the diffusion rate of the first analyte into the first polymer comprises a laser beam source(66), a beam splitting means(68) for producing at least two beams of light from a single incoming beam of light, an optical waveguide interferometer, a test sample region(12) of the optical waveguide interferometer, a reference sample region(14) of the optical waveguide interferometer, a lens(28) for combining the sensing beam of light exiting from the test sample region of the optical waveguide interferometer with a reference beam of light exiting a reference sample region of the optical waveguide interferometer, a two dimensional array detector(30) for imaging the interference pattern and producing a signal output, and a Fourier transform program(74 and graph in figure 3) for converting the signal output to a phase change output.

Allowable Subject Matter

Claims 1-11 and 13 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Claim 1 recites "measuring a diffusion rate of a first analyte into a first polymer using an optical waveguide interferometer; and if the diffusion rate of the first analyte into the first polymer as measured by the optical waveguide interferometer is greater than or equal to a desired diffusion rate value, incorporating the first polymer into an absorptive system of a filter media". Barrett et al uses an optical waveguide interferometer to measure a phase change from an interference pattern, however Barrett et al does not teach the decision steps of determining if the diffusion rate is greater than a desired diffusion rate, and incorporating the first polymer into an absorptive system of a filter media. Barrett et al teaches a detection device for chemical agents, but does not translate the use of the polymer into making a filter media from the polymer. Claims 2-11 and 13 depend on claim 1 and hence are also allowed.

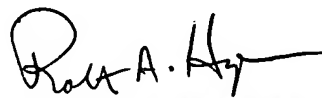
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A. Hopkins whose telephone number is 571-272-1159. The examiner can normally be reached on Monday-Friday, 7am-4pm, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Rah
April 20, 2005


ROBERT A. HOPKINS
PRIMARY EXAMINER
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